



Cocoa and biodiversity

Jonathan Cook, WWF-MPO



Cocoa and biodiversity: WWF presentation for Success Alliance meeting



Jonathan Cook

WWF Macroeconomics Program Office (Washington, DC)

October 31, 2006



Cocoa and biodiversity

Jonathan Cook, WWF-MPO



Introduction

Cocoa production has contributed to deforestation and biodiversity loss in many tropical countries.

However, cocoa can also play a positive role for the environment, especially compared to other agricultural systems...

...if it is grown in certain ways, supported by good policies, and responding to market opportunities.



Cocoa and biodiversity

Jonathan Cook, WWF-MPO



Three Components of Cocoa Sustainability

- Economic
- Social
- Environmental

We are interested in seeing the *environmental* component better defined, and expanded in practice.

We are interested less in “on-farm sustainability” and more in conservation of biodiversity and ecosystem services at a landscape level.





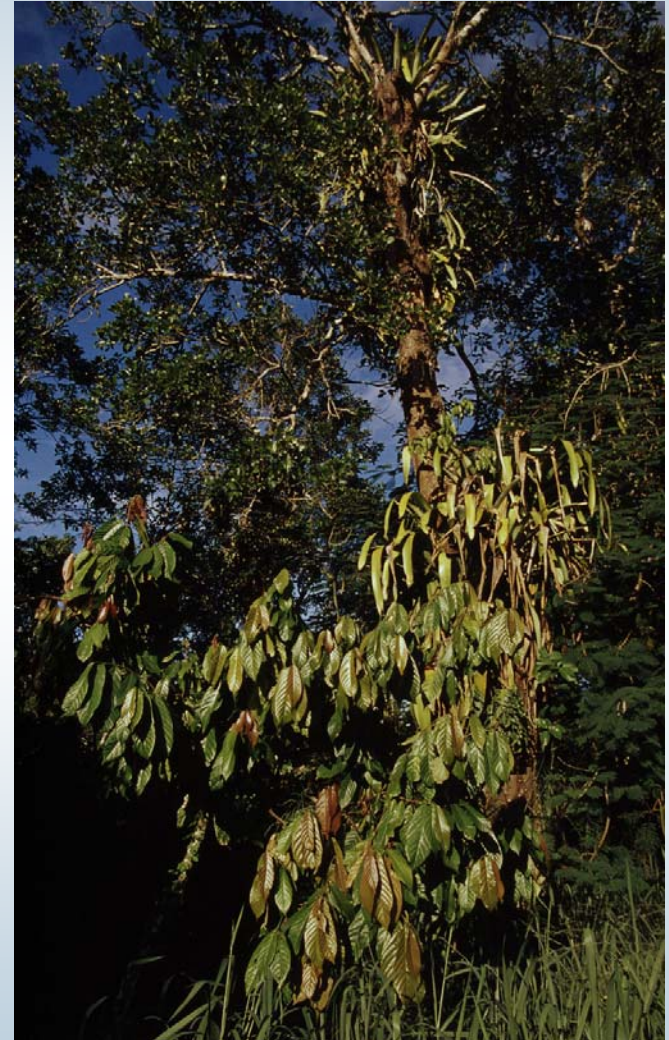
Cocoa and biodiversity

Jonathan Cook, WWF-MPO



Section I: Key Findings on Cocoa and Biodiversity

Considerable evidence from West Africa and Central and South America has shown that – relative to other agricultural systems – certain kinds of cocoa systems can have significant benefits for biodiversity conservation.





Cocoa and biodiversity

Jonathan Cook, WWF-MPO



Key Findings: Cocoa Systems

Shade-grown cocoa agroforestry systems are much more beneficial than full-sun plantation systems in terms of protecting biodiversity and safeguarding ecosystem function.





Cocoa and biodiversity

Jonathan Cook, WWF-MPO



Key Findings: Cocoa Systems

Intercropping cocoa with other kinds of trees (e.g. fruit, timber) leads to a greater diversification of economic opportunities for farmers.





Cocoa and biodiversity

Jonathan Cook, WWF-MPO



Key Findings: Cocoa Systems

Unlike many slash-and-burn food crop systems, cocoa agroforests generally require only single, partial clearing of the forest, which is better for soil health and allows longer-term cropping cycles.





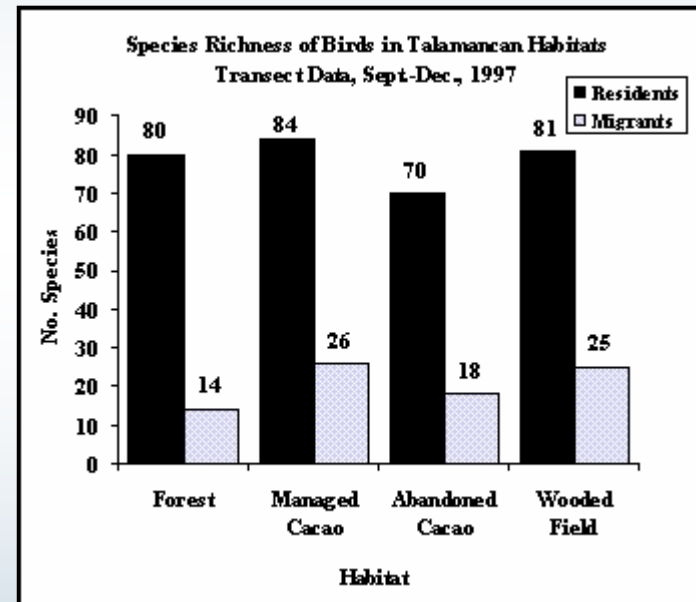
Cocoa and biodiversity

Jonathan Cook, WWF-MPO



Key Findings: Cocoa, Biodiversity, and Ecosystem Services

Though cocoa agroforests cannot match primary forests, the overall level of biodiversity there is usually higher than in other agricultural landscapes.





Cocoa and biodiversity

Jonathan Cook, WWF-MPO



Key Findings:

Cocoa, Biodiversity, and Ecosystem Services

Cocoa agroforests play a wide role of other ecological services, like maintaining hydrological and soil function and providing habitat for pollinators and useful insects.





Cocoa and biodiversity

Jonathan Cook, WWF-MPO



Key Findings: Cocoa, Land Use, and Conservation

Cocoa can be used to:

- **partially reforest degraded agricultural lands**
- **stabilize and provide livelihoods within buffer zones around protected areas**
- **improve habitat connectivity for wildlife**





Section II: Basic Principles of “Biodiversity-friendly Cocoa”

The evidence shows that certain kinds of cocoa systems can contribute to biodiversity conservation and poverty alleviation...

...but many factors determine whether these are the systems that are actually implemented and maintained.

And there are many challenges in terms of lining up the right incentives to support these kinds of systems.



Basic Principles of “Biodiversity-friendly Cocoa”

1. Support complex, shade-based agroforestry systems

- Better for biodiversity
- Require fewer inputs
- Are less susceptible to disease
- Produce cocoa for a longer amount of time
- Provide a more diverse range of economic opportunities to farmers

- Use native tree species
- Promote diverse canopies
- Protect riparian habitats



Basic Principles of “Biodiversity-friendly Cocoa”

2. Promote cocoa as a way to reforest degraded areas

- Can be planted *into* existing agricultural landscapes
- Helps to reduce pressure for clearance or conversion of forest
- However, labor costs can be higher and inputs are often needed
- Farmers need technical assistance and strong support from government



Basic Principles of “Biodiversity-friendly Cocoa”

3. Support intensification within existing systems

- Farmers with access to herbicides are more willing to intensify production, convert other farmlands, or reforest degraded lands, rather than moving into new forest and repeating the cycle of cocoa clearance.
- Reducing agrochemical use and pollution may be an important goal, but allowing some of it may be a tradeoff that is worth considering if it helps to stabilize land use patterns and agricultural expansion.



Basic Principles of “Biodiversity-friendly Cocoa”

4. Look at the big picture: How do cocoa agroforests fit into the larger landscape?

- Cocoa agroforests in buffer zones may help nearby protected areas
 - by directly reducing pressure to clear forest
 - by offering more livelihood opportunities
 - by providing certain non-timber forest products
- Government must take an active role in terms of:
 - agricultural zoning
 - land-use planning
 - licensing or land allocation regulations to promote better practices



Basic Principles of “Biodiversity-friendly Cocoa”

5. Get the policy environment right

Government can play an important role in terms of promoting biodiversity-friendly methods, and carefully managing the expansion of cocoa, through:

- land tenure and property rights
- migration policy
- institutions for sustainable land management
- protected-area management
- agricultural and macroeconomic policy
- agricultural R&D and extension



Cocoa and biodiversity

Jonathan Cook, WWF-MPO



Basic Principles of “Biodiversity-friendly Cocoa”

6. Support economic sustainability for cocoa farmers.

Biodiversity conservation needs to work for farmers if *it* is going to be sustainable.

- A. Do more research to understand benefits of biodiversity to farmers
- B. Find other ways to make these systems more economically viable
- C. “Green the supply chain”

Farmer need to receive tangible benefits from these systems! Income diversification, new market opportunities, increased resilience to adverse conditions, for new income-generating streams: Buyer's need to match higher quality cocoa, increase other valuable products, pollination, etc.

- Pay rewards for ecosystem services for “biodiversity-friendly cocoa” as with coffee.
 - Better integration into plans for protected areas
- WWF's preference is to develop mainstream “better practices” that would affect a bigger chunk of the market



Some Important Questions

- a. **What does environmental sustainability actually mean in a cocoa context?**
- b. **How does cocoa interact with biodiversity? How do we define biodiversity? And what would “biodiversity-friendly cocoa production systems” actually look like?**
- c. **How can farmers actually benefit from maintaining greater biodiversity on their cocoa farms?**
- d. **How can governments encourage more biodiversity-friendly cocoa systems?**



Cocoa and biodiversity

Jonathan Cook, WWF-MPO



WWF hopes to work globally with a variety of partners to develop and apply the criteria for more environmentally sustainable cocoa production.





Cocoa and biodiversity

Jonathan Cook, WWF-MPO



“Sustainable Development of Vietnamese Cocoa Sector”

***Supported by DGIS, WWF – MPO, and IPC
implemented by WWF Vietnam Program***



Cocoa and biodiversity

Jonathan Cook, WWF-MPO



PROJECT ACTIVITIES

Phase 1 (*August – November 2005*)

To undertake a comprehensive overview of the sector

Phase 2 (*up to December 2006*)

- To identify and map out the most appropriate sites for sustainable cocoa production and expansion within Lam Dong province.
- To recommend guidelines for sustainable development of cocoa in Vietnam and its implications for biodiversity conservation.



Cocoa and biodiversity

Jonathan Cook, WWF-MPO



FOCUS FOR WWF

- Use as a tool to enhance, maintain and expand the natural forest environment *[with a special attention paid to degraded forest areas adjoining special use forest in the southern area of the Cat Tien National Park]*
- Act as a land bridge between forest areas while maintaining connectivity within the landscape
- Maintain or restore components of the original forest flora and fauna
- Support a sustainable livelihood for farmers



Cocoa and biodiversity

Jonathan Cook, WWF-MPO



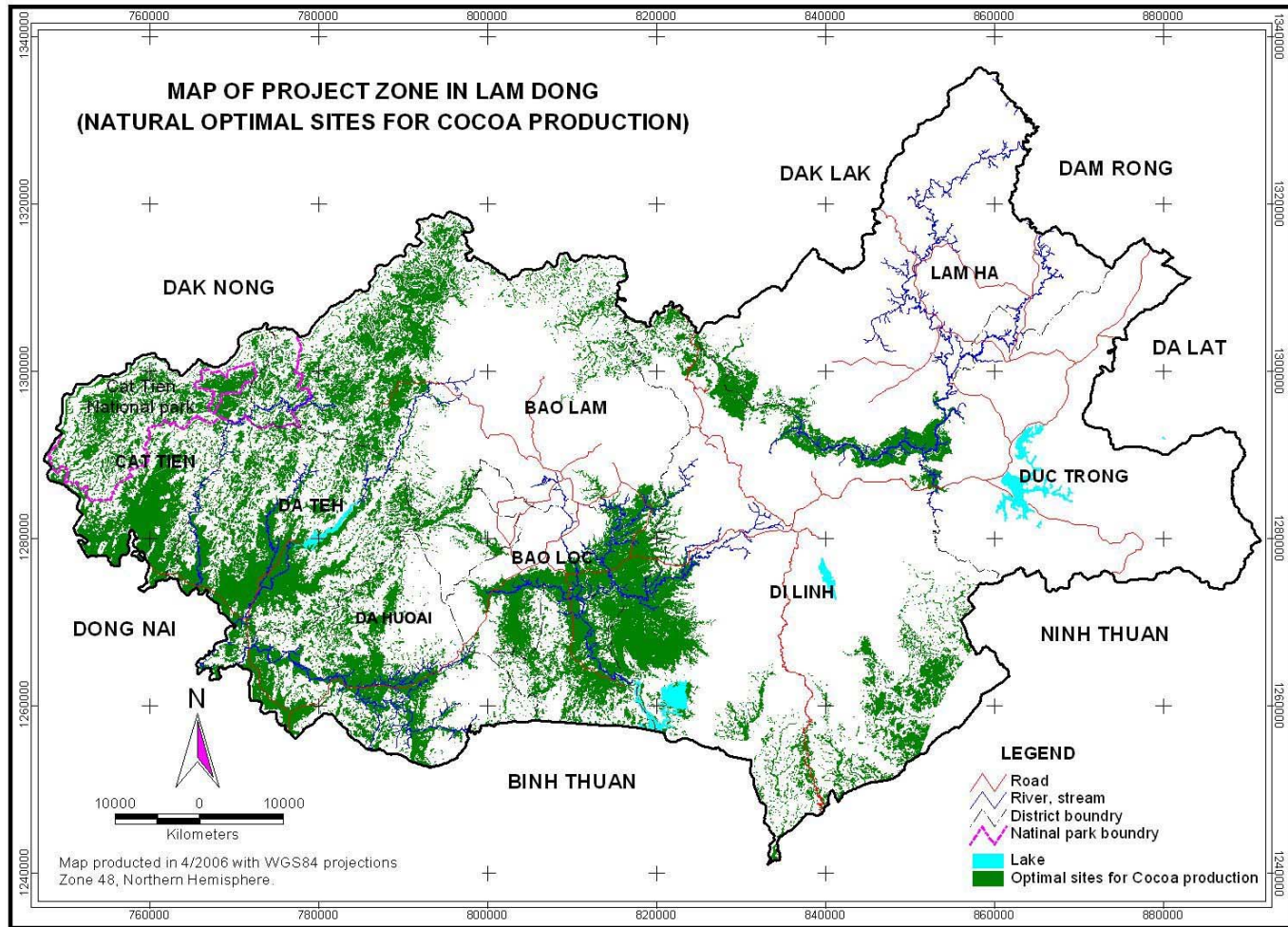
RATIONALE FOR LAM DONG

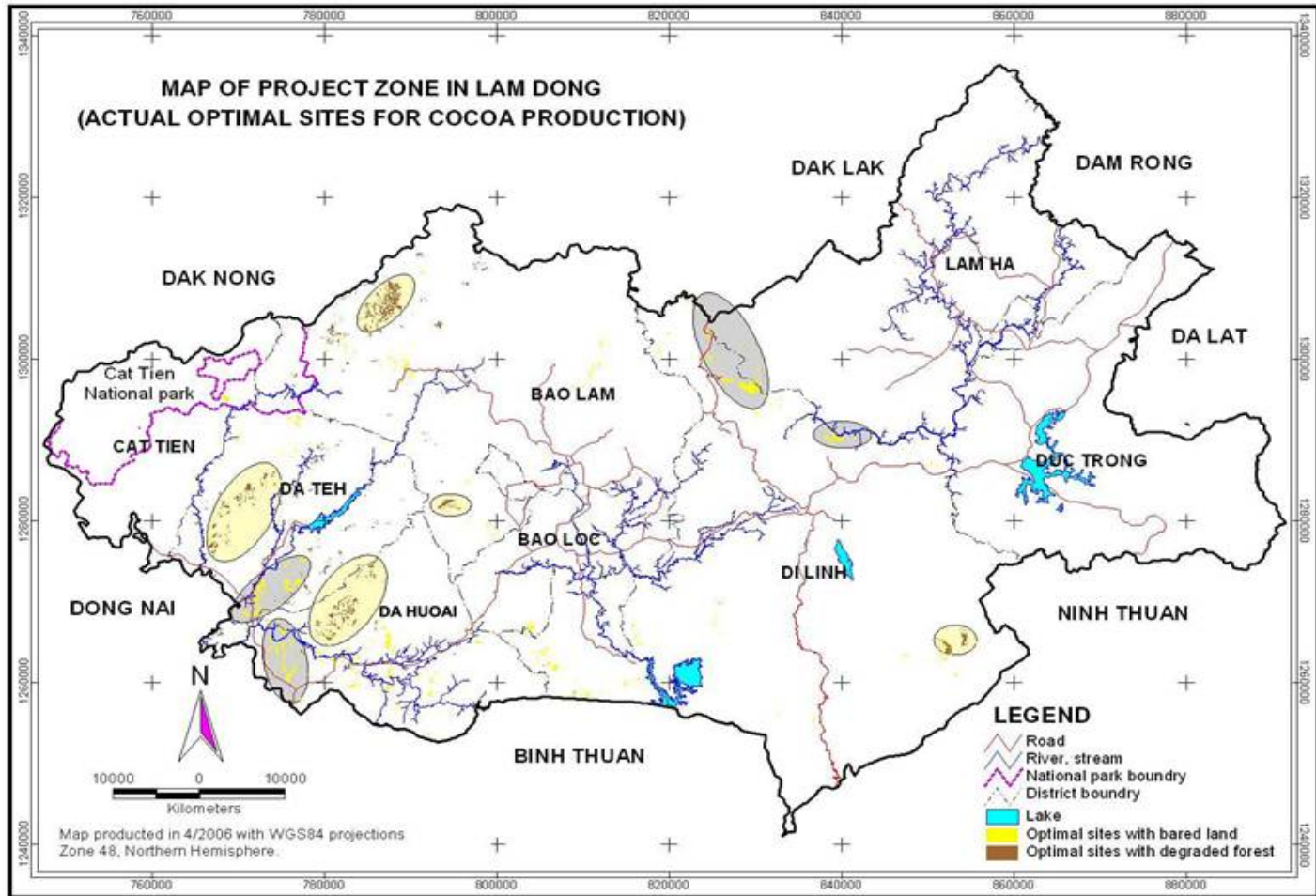
- Suitable natural conditions (soil, climate, rainfall, elevation)
- Interest from provincial government (DARD), farmers, buyers
- Access to transport, markets
- Vicinity to areas of high biodiversity (Cat Tien National Park)



Cocoa and biodiversity

Jonathan Cook, WWF-MPO







Cocoa and biodiversity

Jonathan Cook, WWF-MPO



ACHIEVED OUTPUTS

- Identification of potential for cocoa production and expansion within Lam Dong
- Production of a map showing the most suitable areas for cocoa production in Da Te'h, Cat Tien and Da Huoai districts
- Identification of the socio-economic situations of the identified villages and assessment of the interest of targeted communities
- Recommendations for sustainable cocoa development in Lam Dong with a focus on biodiversity protection (*ongoing*)



Cocoa and biodiversity

Jonathan Cook, WWF-MPO



THANK YOU!

Jonathan Cook

WWF Macroeconomics Office

jonathan.cook@wwfus.org

Pham Minh Thao

WWF Vietnam

thao.phamminh@wwfgreatermekong.org